AFCTN Report 94-103

AFCTB-ID 94-102

Technical Publication Transfer Using:

Northrop Corporation's Data Supporting:

ASC/YSSA B-2 Program

(Contract #F33567-81-C-0067/0051)

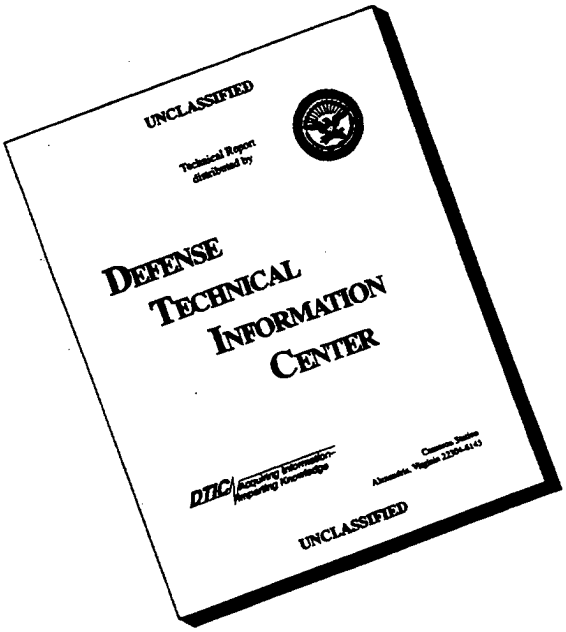
MIL-STD-1840A
MIL-D-28000A (IGES)
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)
MIl-D-28003 (CGM)

Quick Short Test Report

29 July 1994

Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
4027 Colonel Glenn Hwy Suite 300
Dayton OH 45431-1672

DISCLAIMER NOTICE



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AFCTN Test Report
94-103

AFCTB-ID
94-102

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Quick Short Test Report

29 July 1994

Prepared By
Air Force CALS Test Bed
Wright-Patterson AFB, OH 45433

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Springfield, VA 22161

Air Force CALS Test Bed

Notification of Test Results

29 July 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

Northrop Corporation

Identified as follows:

Title:	**Technical Publication Transfer**
Program:	**B-2**
Program Office:	**ASC/YSSA**
Contract No.:	**F33567-81-C-0067/0051**
QSTR No.:	**AFCTB-ID 94-102**

Received on the following media: **Two 9-Track Tapes**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Standard	**PASS**
MIL-STD-1840A Media Format:	**PASS**
MIL-D-28000A IGES:	**PASS**
MIL-M-28001B SGML:	**PASS**
MIL-R-28002A Raster:	**PASS**
MIL-D-28003 CGM:	**PASS**

Formal results with associated disclaimer are documented and available from the AFCTB.

Air Force CALS Test Bed
HQ ESC/AV-2P
4027 Colonel Glenn Highway, Suite 300
Dayton, OH 45431-1672
Phone: 513-257-3085 FAX: 513-257-5881

Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Northrop Corporation's interpretation and use of the CALS standards in transferring technical publication data. Northrop used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on two 9-track magnetic tapes.

2. Test Parameters

Test Plan: AFCTB 94-102

Date of Evaluation: 29 July 1994

Evaluator:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
J.P. Kent
Northrop Corporation
B2 Division, M/S R213/UM
8900 E. Washington Blvd
Pico Rivera CA 90660
(310) 948-0624

Data Description:
Technical Manual Test
2 Document Declaration files
2 Document Type Definitions (DTDs)
1 Initial Graphics Exchange Specification (IGES) file
1 Text/Standard Generalized Markup Language (SGML) file
1 Raster file
1 Computer Graphics Metafile (CGM) file

Data Source System:

1840

HARDWARE
SUN IPX

SOFTWARE
Intergrated Technical Data System (ITDS) v2

IGES

HARDWARE
SUN IPX

SOFTWARE
Northrop ITDS Converter - GEF_IGES

Text/SGML

HARDWARE

SUN IPX

SOFTWARE

ITDS v2

Raster

HARDWARE

SUN IPX

SOFTWARE

ITDS v2

CGM

HARDWARE

SUN IPX

SOFTWARE

Northrop B2 ITDS GEF

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN ***Tapetool v1.2.10 UNIX***
XSoft ***CAPS/CALS v40.4***

MIL-D-28000 (IGES)

HP 735

Island Software ***IslandDraw v3.0***
Carberry ***CADLeaf v3.1.2***

SGI Indigo2

Cadkey ***Cadkey v6.0***
IGES Data Analysis (IDA) ***CALSView***
International TechneGroup Incorporated (ITI) ***IGES/Works v2.0***

Sun SparcStation 2

Auto-trol ***Sk5post S5000 IGES Converter R7.0.1***
Carberry ***CADLeaf Plus v3.1***
IGES Data Analysis (IDA) ***Parser/Verifier v92***
IDA ***IGESView v3.05***
International TechneGroup Incorporated (ITI) ***IGES/Works v1.3***

MIL-M-28001 (SGML)

PC 486/50

Exoterica ***XGMLNormalizer v1.2e3.2***
Exoterica ***Validator v2.0 ex1***
McAfee & McAdam ***Sema Mark-it v2.3***
Public Domain ***sgmls***

MIL-R-28002 (Raster)

HP 735

Island Software ***IslandPaint v3.0***

SGI Indigo2

IDA ***CALSView***

SUN SparcStation 2

Carberry ***CADLeaf Plus v3.1***
AFCTN ***validg4***
AFCTN ***xrastb.sun4***

PC 486

Inset Systems ***HiJaak Pro***
Expert Graphics ***RxHighlight v1.0***

MIL-D-28003 (CGM)

HP 735

Carberry ***CADLeaf Plus v3.1***
Island Software ***IslandDraw v3.0***

SGI Indigo 2

IDA ***CALSView***

SUN SparcStation 2

Auto-trol ***Sk5cgm S5000 CGM Converter R2.0***
Island Software ***IslandDraw v4.0***

PC 486/50

Advanced Technology Center (ATC) ***ForView R 1.0***
ATC ***MetaCheck R 2.10***
Software Publishing Corporation (SPC) ***Harvard Graphics v3.05***
Inset Systems ***HiJaak Pro***
Lotus ***Freelance v2.01***
Micrografx ***Designer v4.0***
Corel ***Ventura Publisher***

Standards Tested:

MIL-STD-1840A
MIL-D-28000A
MIL-M-28001A
MIL-R-28002A
MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tapes arrived at the Air Force CALS Test Bed (AFCTB) enclosed in boxes in accordance with ASTM D 3951. The exterior of the boxes were marked with magnetic tape warning labels, as required by MIL-STD-1840A, para. 5.3.1.3.

The tapes were enclosed in barrier bags as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reels showed the labels indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the boxes were packing lists showing all files recorded on the tapes.

3.2 Transmission Envelope

The 9-track tapes received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

Both tapes were tested using the AFCTN ***Tapetool v1.2.10*** utility. No errors were encountered while evaluating the contents of the tape labels.

The tapes were read using XSoft's ***CAPS read1840A*** utility without any reported errors.

Both tapes meet the requirements defined in ANSI X3.27 and MIL-STD-1840A for physical structure.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration file or data file headers. These portions of the tapes meet the requirements defined in MIL-STD-1840A for CALS headers.

4. IGES Analysis

The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The tapes contained one IGES file. This file was evaluated using IDA's ***parser/verifier*** set for CALS Class I. This utility reported no CALS errors. The start sections contained the required conformance statement.

The file was converted using a utility available within the AFCTB, with no reported errors. The resulting file was read into Island Software's ***IslandDraw***, displayed and printed without a reported error. It was noted that the file displayed on the left side of the screen. The remainder of the file was located off the page to the left. The origin point of this file was found to be a negative value (X -3.13; Y- .86). An undocumented feature of the translator was used to create a complete image.

The file was converted using Auto-trol's ***Sk5post*** utility without a reported error. The resulting file, when displayed, appeared to be complete.

The file was converted using Cadkey's ***ig2c*** utility. The resulting file was read into Cadkey's ***Cadkey***, displayed and printed. No errors were noted.

The file was read into Carberry's ***CADLeaf*** software without a reported error. The file displayed in the lower left corner of the screen. When the Bound Data option was used during the import, a complete image was displayed and printed.

The file was read using IDA's ***IGESView*** and ***IGESView for Windows*** and ***CALSView***. No errors were noted.

The file was read using ITI's ***IGESWorks*** without a reported error. The files were displayed and printed.

The IGES file was converted using Rosetta Technologies' ***Prepare*** with a reported warning for level of precision. The

resulting file was read into Rosetta Technologies' ***Preview***, displayed and printed.

The IGES file had no reported CALS errors, and it meets the CALS MIL-D-28000A, Amendment One, specification.

5. SGML Analysis

The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or text files required by each system are not documented in the report.

The two tapes contained two DTD, two text, and two Format Output Specification Instance (FOSI) files. The first tape contained a DTD which consisted of token references. It was analyzed as described in the following paragraphs.

The text and DTD files from the first tape were evaluated using a parser available within the AFCTB. No errors or warnings were issued during the parsing of these files. It was necessary to increase the GRPCNT parameter in order to complete the parsing operation.

The text and DTD files from the first tape were evaluated using the Exoterica ***XGMLNormalizer*** parser. This parser reported no errors or warnings.

The text and DTD files from the first tape were tested using the Exoterica ***Validator exl*** parser. The following warning was issued by this tool:

```
<!-- **Warning** in "i:\94102\94102a.txt", line 1:
   There is no element with an IDREF or IDREFS attribute value equal to
   a specified ID value.
   The unreferenced ID attribute value is "X0".
-->
```

The text and DTD files from tape one were evaluated using McAfee & McAdam's ***Sema Mark-it v2.3*** parser. No errors or warnings were issued by this tool.

The text and DTD files from tape one were evaluated using the Public Domain ***sgmls*** parser. No errors or warnings were issued by this utility. It was necessary to increase the GPPCNT parameter in order to complete the parsing operation.

The second tape contained a "normal" DTD with a text file that referenced the included graphics files. It was analyzed as described in the following paragraphs.

The text and DTD files from the second tape were evaluated using a parser available within the AFCTB. No errors or warnings were issued during the parsing process.

The text and DTD files from the second tape were evaluated using the Exoterica ***XGMLNormalizer*** parser. This parser reported no errors and three warnings. The warnings were mixed content models for elements "ENTRY", "NOTICE" and "RESULT".

The text and DTD files from the second tape were tested using the Exoterica ***Validator exl*** parser. Four warnings were issued by this tool for mixed content models.

The text and DTD files from tape two were evaluated using McAfee & McAdam's ***Sema Mark-it v2.3*** parser. No errors or warnings were issued by this tool.

The text and DTD files from tape two were evaluated using the Public Domain ***sgmls*** parser. No errors or warnings were issued by this utility.

The DTD and text files from the second tape were imported into a software available within the AFCTB. The DTD was parsed and generated three mixed content model warnings. Because the FOSI file could not be imported, nothing was published.

No errors were reported in any of the DTD or text files from either tape. The files meet the CALS MIL-M-28001A specification.

6. Raster Analysis

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The tapes contained one Raster file. This file was evaluated using the AFCTN ***validg4*** utility. This program reported that the file meets the CALS MIL-R-28002A specification.

The file was read into the AFCTN ***xrastb.sun4*** viewing utility. No problems were noted.

The file was converted using a utility available within the AFCTB, without a reported error. The resulting file was read into Island Software's ***IslandPaint*** and displayed.

The Raster file was read into Carberry's ***CADLeaf*** software without a reported error. The image was displayed with no noted errors.

The file was read using IDA's ***CALSView*** without a reported error.

The file was read into IDA's ***IGESView*** and ***IGESView for Windows*** without a reported error and displayed.

The file was read into and displayed using Inset Systems' ***HiJaak for Windows*** without a reported error.

The file was converted using Rosetta Technologies' ***Prepare*** without a reported error. The resulting file was read into Rosetta Technologies' ***Preview*** and displayed.

The file was imported into Expert Graphics' ***RxHighlight*** and displayed without a reported error.

The Raster file meets the CALS MIL-R-28002A specification.

7. CGM Analysis

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor and indication of CALS capability. All operations were performed using the default settings.

The tape contained one CGM file. The file was evaluated using ATC's ***MetaCheck*** with CALS options. This utility reported no errors in the file.

The CGM file was evaluated using the beta AFCTN ***validcgm*** utility. This utility reported errors in the file.

The CGM file was converted using a utility available within the AFCTB, without a reported error. The resulting file was read into Island Software's ***IslandDraw v3.1***, displayed and printed. File C002 contained text overflow.

The file was converted using Auto-trol's ***sk5cgm*** utility without a reported error. When the resulting file was displayed, it appeared as a solid mass of color and lines.

The file was read into Carberry's ***CADLeaf*** software and displayed. File C002 contained text overflow. When the proportional font option was selected, most text was displayed within the defined boundaries. However, in two blocks the text still overflowed into the next block.

The file was read into IDA's ***CALSView.*** File C002 contained text overflow in many blocks along with the restricted text block.

An attempt to imported the file into the Micrografx ***Designer*** resulted in reported errors. The file caused a General Protection error and nothing displayed.

According to Michael Harrison of Micrografx, "Micrografx is aware of the problems associated with reading these files and is working on a solution to be implemented in a future release of our product."

An attempt to import the file into ATC's ***ForView*** caused a General Protection error message.

An attempt to import the file into Lotus' ***Freelance*** caused a General Protection error message.

The file was imported into SPC's ***Harvard Graphics v3.05*** with reported errors. They were line style errors, individual points adjusted so they will appear on the screen, non-CGM objects encountered, and objects not translated. The resulting image was not usable.

When an attempt was made to read the file into Inset Systems' ***HiJaak Pro***, the file generated a "Real Precision Not Supported" error message.

The file was imported directly into Island Software's ***IslandDraw v4.0*** without a reported error. Text overflow in the restricted text block, and errors in the Elliptical arc blocks were noted.

An attempt to imported the files into Corel's ***Ventura Publisher*** resulted in errors reported. Nothing was displayed.

The file was imported into InterCAP's ***X-Change*** without a reported error. Text overflow in the restricted block and block title was noted.

The CGM files meet the CALS MIL-D-28003 specification. However, none of the PC based software, available within the AFCTB, was able to successfully read the files. None of the applications displayed a completely correct image. This is because the PC-based software products used in this test do not support the high precision levels (16 digit) required by the submitted CGM files.

8. Conclusions and Recommendations

The tape could be read properly using the AFCTN ***Tapetool*** software without any reported errors or warnings. The physical structure and CALS headers were correct, and this portion of the tape meets the CALS MIL-STD-1840A and ANSI X3.27 requirements.

The IGES file meets the CALS MIL-D-28000A specification.

The SGML files meet the CALS MIL-M-28001A specification.

The Raster file meets the CALS MIL-R-28002A specification.

The CGM file meets the CALS MIL-D-28003 specification. However, most of the software tools, available within the AFCTB, could not correctly display the images.

The tapes submitted by Northrop Corporation meets the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog - Tape One

```
CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 29 10:38:28 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set071

                                                                    Page: 1
```

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000001	Extracted
D001G002	DTD	D/00260	02048/000003	Extracted
D001H003	Output Specification	D/00260	02048/000016	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log - Tape One

```
CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 29 10:38:23 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01                CONTROLLER                                          4

  Label Identifier: VOL1
  Volume Identifier: ITDS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001             ITDS0100010001000100 94195 94195 000000  CONTROLLER

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  94195
  Expiration Date:  94195
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:   CONTROLLER

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

############ End Of Tape File Set ###############

Deallocating /dev/rmt0...

Tape Import Process terminated normally.
```

9.3 Tape File Set Validation Log - Tape One

```
CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Fri Jul 29 10:38:28 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set071

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L591/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: STPRO25.2.4
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19940713
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.2.4
dstrelid: NONE
dtetrn: 19940714
dlvacc: NONE
filcnt: T1, H1, G1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: TEST DOCUMENT
docttl: Test document STPRO25.2.4

Found file: D001T001
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: STPRO25.2.4
dstdocid: STPRO25.2.4
txtfilid: W
doccls: U
notes: NONE

Saving Text Header File: D001T001_HDR
Saving Text Data File: D001T001_TXT
```

```
Found file: D001G002
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: STPRO25.2.4
dstdocid: STPRO25.2.4
notes: NONE

Saving DTD Header File: D001G002_HDR
Saving DTD Data File: D001G002_DTD

Found file: D001H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: STPRO25.2.4
dstdocid: STPRO25.2.4
notes: NONE

Saving Output Specification Header File: D001H003_HDR
Saving Output Specification Data File: D001H003_OS

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

9.4 Other Tape Reading Logs - Tape One

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001     ' ---
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2524/W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2524/STPRO2524.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2524/STPRO2524.H.out'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 1 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 0 files of type R
-- declaration file indicates 0 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
```

9.5 Tape Catalog - Tape Two

```
CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 29 10:31:08 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set070
```

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000002	Extracted
D001C002	CGM	F/00080	00800/000006	Extracted
D001R003	Raster	F/00128	02048/000019	Extracted
D001Q004	IGES	F/00080	02000/000012	Extracted
D001G005	DTD	D/00260	02048/000010	Extracted
D001H006	Output Specification	D/00260	02048/000061	Extracted

```
Catalog Process terminated normally.
```

9.6 Tape Evaluation Log - Tape Two

```
CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 29 10:30:56 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01                CONTROLLER                                        4

  Label Identifier: VOL1
  Volume Identifier: ITDS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001             ITDS0100010001000100 94195 94195 000000  CONTROLLER

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  94195
  Expiration Date:  94195
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:   CONTROLLER

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

############ End Of Tape File Set ###############

Deallocating /dev/rmt0...

Tape Import Process terminated normally.
```

9.7 Tape File Set Validation Log - Tape Two

```
CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Fri Jul 29 10:31:08 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set070

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L591/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: STPRO25.2.5
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19940713
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.2.5
dstrelid: NONE
dtetrn: 19940714
dlvacc: NONE
filcnt: T1, H1, G1, C1, Q1, R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: TEST DOCUMENT
docttl: Test document STPRO25.2.5

Found file: D001T001
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: STPRO25.2.5
dstdocid: STPRO25.2.5
txtfilid: W
doccls: U
notes: NONE

Saving Text Header File: D001T001_HDR
Saving Text Data File: D001T001_TXT
```

```
Found file: D001C002
Extracting CGM Header Records...
Evaluating CGM Header Records...

srcdocid: STPRO25.2.5
dstdocid: STPRO25.2.5
txtfilid: W
figid: NONE
srcgph: cals.cgm
doccls: U
notes: NONE

Saving CGM Header File: D001C002_HDR
Saving CGM Data File: D001C002_CGM

Found file: D001R003
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: STPRO25.2.5
dstdocid: STPRO25.2.5
txtfilid: W
figid: NONE
srcgph: test1.ras
doccls: U
rtype: 1
rorient: 000,270
rpelcnt: 002560,002048
rdensty: 0300
notes: NONE

Saving Raster Header File: D001R003_HDR
Saving Raster Data File: D001R003_GR4

Found file: D001Q004
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: STPRO25.2.5
dstdocid: STPRO25.2.5
txtfilid: W
figid: NONE
srcgph: apple2d.igs
doccls: U
notes: NONE

Saving IGES Header File: D001Q004_HDR
Saving IGES Data File: D001Q004_IGS
```

```
Found file: D001G005
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: STPRO25.2.5
dstdocid: STPRO25.2.5
notes: NONE

Saving DTD Header File: D001G005_HDR
Saving DTD Data File: D001G005_DTD

Found file: D001H006
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: STPRO25.2.5
dstdocid: STPRO25.2.5
notes: NONE

Saving Output Specification Header File: D001H006_HDR
Saving Output Specification Data File: D001H006_OS

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

9.8 Other Tape Reading Logs - Tape One

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001     ' ---
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2525/W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2525/calscgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2525/test1ras.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2525/apple2digs.Q.igs'.
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2525/STPRO2525.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb94102a/STPRO2525/STPRO2525.H.out'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 1 files of type H
-- declaration file indicates 1 files of type Q
-- declaration file indicates 1 files of type R
-- declaration file indicates 1 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
```

10. Appendix B - Detailed IGES Analysis

10.1 File D001Q004

10.1.1 Parser/Verifier Log

```
**********************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
**********************************

Input file is q004.igs

Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

Today is July 29, 1994  12:23 AM

**********************************
*****    CHECK FILE SYNTAX    *****
**********************************

   Section        Records

   Start             11
   Global             3
   Directory         82  (     41 Entities)
   Parameter        192
   Terminate          1

NITPICK 2489: Excess precision in real constant (3.40941762) for XS of D      3.
NITPICK 2489: Excess precision in real constant (3.65914916) for YS of D      3.
NITPICK 2489: Excess precision in real constant (-1.51606821) for Data.Pts[1].X
              of D      7.
NITPICK 2489: Messages regarding excess precision suppressed.

**********************************
*****  SUMMARY AND STATISTICS  ****
**********************************

*** File and Product Name Information ***

   File name from sender     = 'Q004.iges'
   File creation Date.Time   = '940714.101853'
```

```
   Model change Date.Time    = ''
   Author                    = 'tom'
   Department                = 'GRAPHICS'
   Product name from sender = 'Q004.iges'
   Destination product name = 'Q004.iges'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version   = '1.0'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***

   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***

   Model scale             =  1.0000E+00
   Unit flag               =  1
   Units                   =  'IN'
   Line weights            =  3
   Maximum line thickness =  1.000000E-02
   Minimum line thickness =  3.333333E-03
   Granularity             =  1.000000E-03
   Maximum coordinate      =  2.862622E+00

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status: Visible                    41
               Blanked                     0

 Independence: Independent                39
               Physically Subordinate      0
               Logically Subordinate       2
               Totally Subordinate         0
```

Entity use:	Geometry	39
	Annotation	2
	Definition	0
	Other	0
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	41
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
106	11	0	24	Copious data - Piecewise planar, linear string (2D linear path)
106	63	0	8	Simple closed planar curve
110	0	0	6	Line
404	0	0	1	Drawing
406	16	0	1	Property - Drawing size
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	41

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 41

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
-	-	-	32	-	6	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

```
 *** Line Widths Used in Data ***

    Weight       Count      Width

 Defaulted        31       (0.0033)
      2           10       (0.0067)

 *** Colors Used in Data ***

 Defaulted         3
       Red         8
     Green        30

 ***********************************
 *****     ENTITY ANALYSIS     *****
 ***********************************

 *** Entity type: 106

 *** Entity type: 110

  --      6 lines averaging 1.362549E-01 units --

 *** Entity type: 404

Drawing at D      5 contains 1 views.
Drawing at D      5 contains 0 annotation entities.
WARNING 2492: Undefined line font value (0) specified for D      5.

 *** Entity type: 406

WARNING 2492: Undefined line font value (0) specified for D      3.

 *** Entity type: 410

  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set        XMAX = Not Set
   YMIN = Not Set        YMAX = Not Set
   ZMIN = Not Set        ZMAX = Not Set

WARNING 2492: Undefined line font value (0) specified for D      1.

 *** Message Summary ***

2038: 3 Invalid Line font values.
```

```
*** Error Summary ***

    0 fatal errors
    0 severe errors
    0 errors
    3 warnings
    0 cautions
  838 nitpicks
    0 notes

*** End of Analysis of q004.igs ***
```

10.1.2 Parser Log - IGESWorks

```
                    IGES/Works v1.4.1
            International TechneGroup Incorporated
                    Validation Logfile

Date:   July 29, 1994
Model:  q004

******************** Validation Parameters ********************

              TOLERANCE CONFIGURATION VALUES
              ------------------------------

ZERO_TOL                    = 1.000000e-13
MODEL_SPACE_PNT_COIN_TOL    = 1.000000e-03
PARM_SPACE_PNT_COIN_TOL     = 1.000000e-08
ISO_PARM_CURVE_TOL          = 1.000000e-08
NON_CONV_TOL                = 1.000000e-12
KNOT_COIN_TOL               = 1.000000e-10
SAME_INTER_TOL              = 1.000000e-12
PARALLEL_LINES_TOL          = 1.000000e-07
ANGLE_COIN_TOL              = 1.000000e-05
PNT_PROJ_TOL                = 1.000000e-07
COLIN_TOL                   = 1.000000e-07
COPLANAR_TOL                = 1.000000e-08
ZERO_NORMAL_TOL             = 1.000000e-06
SAME_TANGENT_TOL            = 1.000000e-04
SAME_CURVATURE_TOL          = 1.000000e-04
SAME_DERIVATIVE_TOL         = 1.000000e-03
MODEL_LINEAR_APPROX_TOL     = 2.220446e-16

************** Entity Listing Before Validation **************

  Count        Type         Form         Description
  -----        ----         ----         -----------
    24          106          11         Planar Piecewise Linear Curve
     8          106          63         Simple Closed Planar Curve
     6          110           0         Line
     1          404           0         Drawing (form 0)
     1          406          16         Property (Drawing Size)
     1          410           0         View

  41  -  Number of entities in selection list

********************* Entity Validation **********************
```

*** Warning (IEVM_BAD_COORD_VALUE) ***
(DE 23, TF 106:11) This independent or logically dependent entity had a coordinate value of -3.0019276e+00, which is beyond the maximum coordinate value set in the Global section (at Index 20) of the IGES file. The maximum coordinate value allowed is 2.8626218e+00.

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Entity Validation Summary:

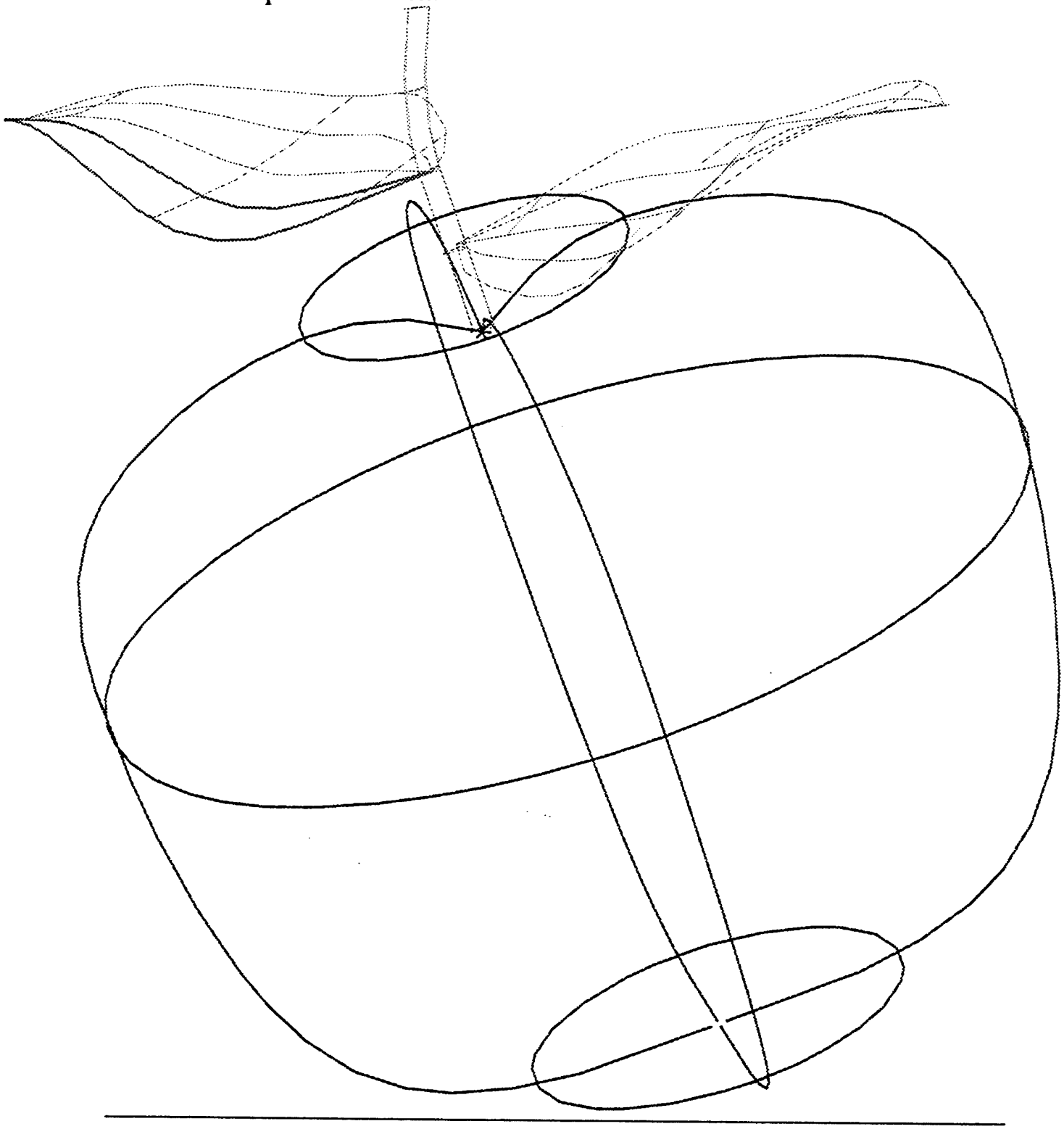
Type	Form	Entity Count	Number Valid	Number of Corrected Warnings	Number of Corrected Errors	Number of Uncorrected Warnings	Number of Uncorrected Errors
Global Section		1	1	0	0	0	0
106	11	24	18	0	0	14	0
106	63	8	8	0	0	0	0
110	0	6	5	0	0	2	0
404	0	1	1	0	0	0	0
406	16	1	1	0	0	0	0
410	0	1	1	0	0	0	0
	Totals:	42	35	0	0	16	0

The following message was issued and suppressed 11 times:

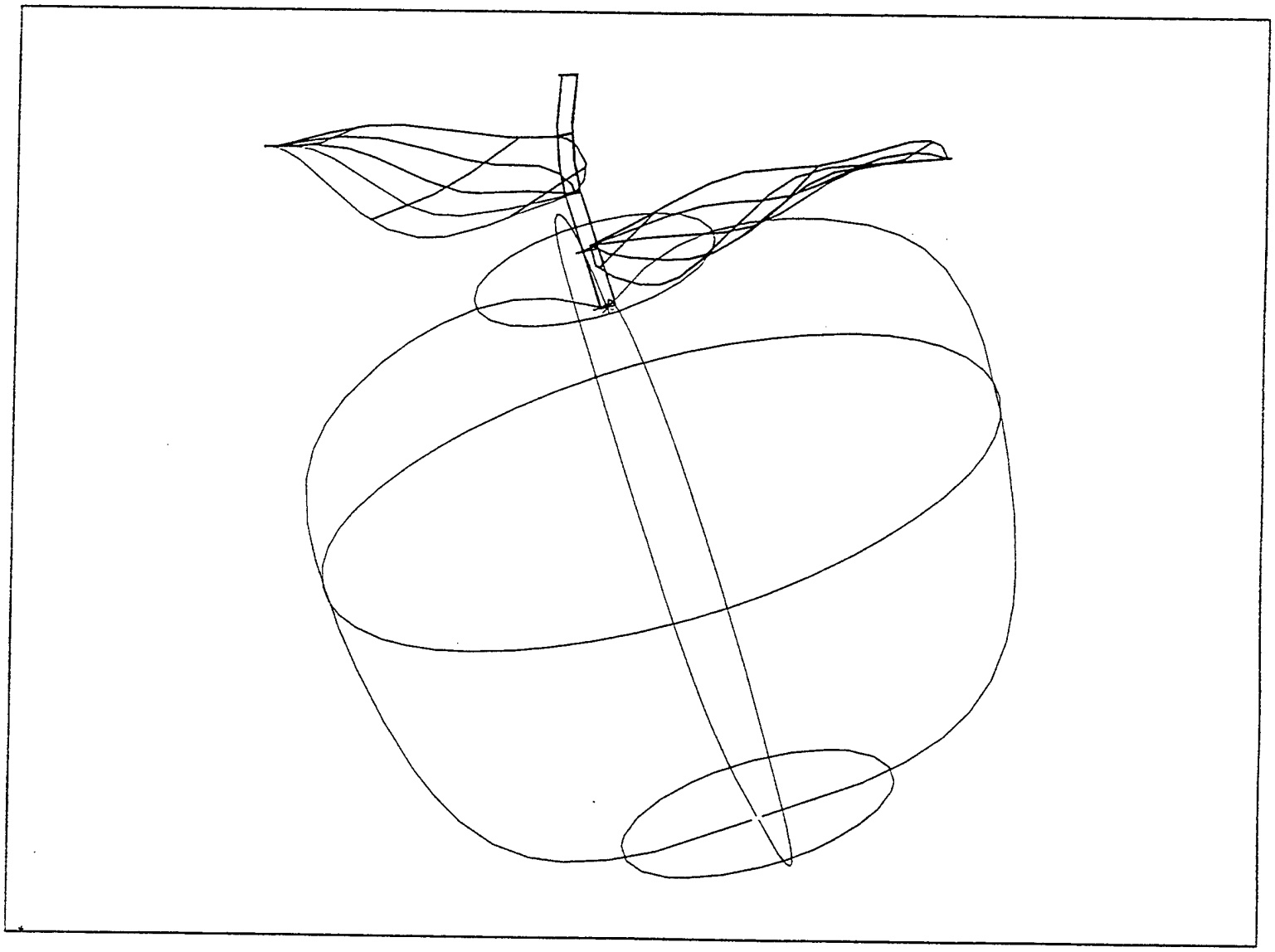
This independent or logically dependent entity had a coordinate value of %.7e, which is beyond the maximum coordinate value set in the Global section (at Index 20) of the IGES file. The maximum coordinate value allowed is %.7e.

A message is suppressed when it has been issued more than 5 times. This value is controlled by the 'MAX_MESSAGE' configuration parameter.
****

10.1.3 Output CADLeaf



10.1.4 Output IGESWorks



11. Appendix C - Detailed SGML Analysis

11.1 Tape One

11.1.1 Parser Log

11.1.1.1 DTD

```
            SGML Document Type Definition Parser
                An SGML System Conforming to
              International Standard ISO 8879
            Standard Generalized Markup Language

Log file: '94102a.LOG'
SDO File: 'calsdtd.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: '94102a.dtd'
Parsing DOCTYPE DOC

This DTD conforms to the ISO 8879 standard

DTO file '94102a.DTO' created

closing statistics:
    Capacity points:                1192
    Bytes of DTO file string space: 894
    SGML descriptor blocks:         357

Document Type Definition is compliant and parsed normally.

Program status code: 0.
```

11.1.1.2 Text File

```
IPA0108:        *** SGML Instance Parser Log File ***
Source Document File:  'i:\94102\94102a.txt'.
Job File:              '94102a.jbf'.
DTD File:              ''.
SGML Declaration File: ''.
Reading File '94102a.jbf', File Type 'JOB FILE'.

     Concrete Syntax Settings In Effect For This Parse:
         NAMECASE GENERAL: YES.
         NAMECASE ENTITY:  NO.
         NAMELEN:          32.
         SHORTTAG:         YES.
Closed '9494a.jbf', File Type 'JOB FILE'.
Reading File 'i:\94102\94102a.txt', File Type 'DIRECT INPUT FILE'.
Closed 'i:\94102\94102a.txt', File Type 'DIRECT INPUT FILE'.
Document Parsed Successfully, No Errors or Warnings.
```

11.1.2 Exoterica XGMLNormalizer Parser

```
No reported errors or warnings.
```

11.1.3 Exoterica Validator exl

```
<!-- **Warning** in "i:\94102\94102a.txt", line 1:
   There is no element with an IDREF or IDREFS attribute value equal to a
   specified ID value.
   The unreferenced ID attribute value is "X0".
-->
<!-- Capacity points/limits:
      TOTALCAP =6988/200000
      ENTCAP   =0/200000
      ENTCHCAP =0/70000
      ELEMCAP  =2784/70000
      GRPCAP   =2880/70000
      EXGRPCAP =32/70000
      EXNMCAP  =32/70000
      ATTCAP   =352/200000
      ATTCHCAP =0/70000
      AVGRPCAP =320/70000
      NOTCAP   =192/70000
      NOTCHCAP =364/70000
```

```
      IDCAP     =32/70000
      IDREFCAP =0/70000
      MAPCAP    =0/70000
      LKSETCAP =0/70000
      LKNMCAP   =0/70000
-->
<!-- 1 warning reported. -->
```

11.1.4 Sema Mark-it Log

No reported errors or warnings.

11.1.5 Public Domain sgmls Log

```
TOTALCAP 6988
ENTCAP 0
ENTCHCAP 0
ELEMCAP 2784
GRPCAP 2880
EXGRPCAP 32
EXNMCAP 32
ATTCAP 352
ATTCHCAP 0
AVGRPCAP 320
NOTCAP 192
NOTCHCAP 364
IDCAP 32
IDREFCAP 0
MAPCAP 0
LKSETCAP 0
LKNMCAP 0
```

11.2 Tape Two

11.2.1 Parser Log

11.2.1.1 DTD Log

```
                SGML Document Type Definition Parser
                    An SGML System Conforming to
                  International Standard ISO 8879
                Standard Generalized Markup Language

Log file: '94102.LOG'
SDO File: 'calsdtd.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: '94102.dtd'
Parsing DOCTYPE DOC

This DTD conforms to the ISO 8879 standard

DTO file '94102.DTO' created

closing statistics:
    Capacity points:                  27456
    Bytes of DTO file string space:   7843
    SGML descriptor blocks:           2989

Document Type Definition is compliant and parsed normally.

Program status code: 0.
```

11.2.1.2 Text File Log

```
IPA0108:        *** SGML Instance Parser Log File ***
Source Document File:  'i:\94102\94102.txt'.
Job File:              '94102.jbf'.
DTD File:              ''.
SGML Declaration File: ''.

Reading File '94102.jbf', File Type 'JOB FILE'.

     Concrete Syntax Settings In Effect For This Parse:
         NAMECASE GENERAL: YES.
         NAMECASE ENTITY:  NO.
         NAMELEN:          32.
         SHORTTAG:         YES.
Closed '94102.jbf', File Type 'JOB FILE'.
Reading File 'i:\94102\94102.txt', File Type 'DIRECT INPUT FILE'.
Closed 'i:\94102\94102.txt', File Type 'DIRECT INPUT FILE'.
Document Parsed Successfully, No Errors or Warnings.
```

11.2.2 Exoterica XGMLNormalizer Parser

```
C:\XGML\XGMLNORM.EXE --
Warning on line 268 in file 94102.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'ENTRY' may be treated as data
characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --
Warning on line 385 in file 94102.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'NOTICE' may be treated as data
characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --
Warning on line 435 in file 94102.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'RESULT' may be treated as data
characters, forcing insertion of markup.
```

11.2.3 Exoterica Validator exl

```
<!-- **Warning** in "\xgml\94102.dtd", line 268:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "ENTRY".
   <!ELEMENT entry    - o ((warning*,caution*,note*)|%paracon;)>
-->
<!-- **Warning** in "\xgml\94102.dtd", line 385:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "NOTICE".
   <!ELEMENT notice  - o (para+|%paracon;)>
                                        /\
-->
<!-- **Warning** in "\xgml\94102.dtd", line 435:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "RESULT".
   <!ELEMENT result    - o (%text;,faultcode?)>
                                           /\
-->
<!-- **Warning** in "i:\94102\94102.txt", line 1:
   There is no element with an IDREF or IDREFS attribute value equal to a
   specified ID value.
   The unreferenced ID attribute value is "X4".
-->
<!-- Capacity points/limits:
      TOTALCAP =52249/200000
      ENTCAP   =7744/200000
      ENTCHCAP =3877/70000
      ELEMCAP  =3456/70000
      GRPCAP   =20256/70000
      EXGRPCAP =256/70000
      EXNMCAP  =544/70000
      ATTCAP   =10848/200000
      ATTCHCAP =296/70000
      AVGRPCAP =3840/70000
      NOTCAP   =192/70000
      NOTCHCAP =364/70000
      IDCAP    =480/70000
      IDREFCAP =96/70000
      MAPCAP   =0/70000
      LKSETCAP =0/70000
      LKNMCAP  =0/70000
-->
<!-- 4 warnings reported. -->
```

11.2.4 Public Domain sgmls Log

```
TOTALCAP 52684
ENTCAP 7744
ENTCHCAP 3928
ELEMCAP 3456
GRPCAP 20256
EXGRPCAP 256
EXNMCAP 544
ATTCAP 10848
ATTCHCAP 296
AVGRPCAP 3840
NOTCAP 192
NOTCHCAP 364
IDCAP 480
IDREFCAP 480
MAPCAP 0
LKSETCAP 0
LKNMCAP 0
```

12. Appendix D - Raster

12.1 Output CALSView

U.S. ARMY MATERIEL COMMAND
U.S. ARMY MISSILE COMMAND
REDSTONE ARSENAL, ALABAMA

PARTS LIST

PL 10677287

CODE IDENTIFICATION NO. 18876

TITLE OSCILLATOR,VOLTAGE CONTROLLED-COHO-A3A13 | USAMICOM ECP 63343 | DATE 16 NOV 70 REV - | SHEET 3 OF

FIND NO.	PART OR IDENTIFICATION NO.	DRAWING OR SPECIFICATION NO.	NOMENCLATURE	QUANTITY	PL	MI	EFFECTIVITY* FROM	EFFECTIVITY* TO	ZONE*	NOTES OR REMARKS
	10181751-207	10181751	RESISTOR							
	10181751-208	10181751	RESISTOR							
	10181751-209	10181751	RESISTOR							
	10181751-210	10181751	RESISTOR							
	10181751-211	10181751	RESISTOR							
	10181751-212	10181751	RESISTOR							
	10181751-213	10181751	RESISTOR							
	10181751-214	10181751	RESISTOR							
	10181751-215	10181751	RESISTOR							
2	10181752-261	10181752	RESISTOR	1						
3	10181752-357	10181752	RESISTOR	1						
4	10181751-147	10181751	RESISTOR	2						
5	10180306-239	10180306	RESISTOR	2						
6	10181751-133	10181751	RESISTOR	1						
7	10181751-166	10181751	RESISTOR	1						
8	10180328-418	10180328	RESISTOR	1						
9	10181752-283	10181752	RESISTOR	1						
10	10181752-298	10181752	RESISTOR	1						
11	10181752-306	10181752	RESISTOR	1						
12	10181752-297	10181752	RESISTOR	1						
13	10181752-289	10181752	RESISTOR	1						
14	10181752-271	10181752	RESISTOR	1						
15	10181752-310	10181752	RESISTOR	1						
16	10181751-55	10181751	RESISTOR	1						1
	10181751-1	10181751	RESISTOR							
	10181751-2	10181751	RESISTOR							
	10181751-3	10181751	RESISTOR							
	10181751-4	10181751	RESISTOR							
	10181751-5	10181751	RESISTOR							
	10181751-6	10181751	RESISTOR							

GSA FORM 1986, AUG. 1963

*OPTIONAL

13. Appendix E - Detailed CGM Analysis

13.1 File D001C002

13.1.1 Parser Log MetaCheck

```
MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 07/29/94     Time:  12:06:47

Metafile Examined    : i:\94102\c002.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

======================== Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report =================

MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 07/29/94     Time:  12:06:50

Name of CGM under test: i:\94102\c002.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : >C002.cgm<
METAFILE DESCRIPTION  : >NORTHROP B2 ITDS GEF, MIL-D-28003/BA<
                        >SIC-1<
```

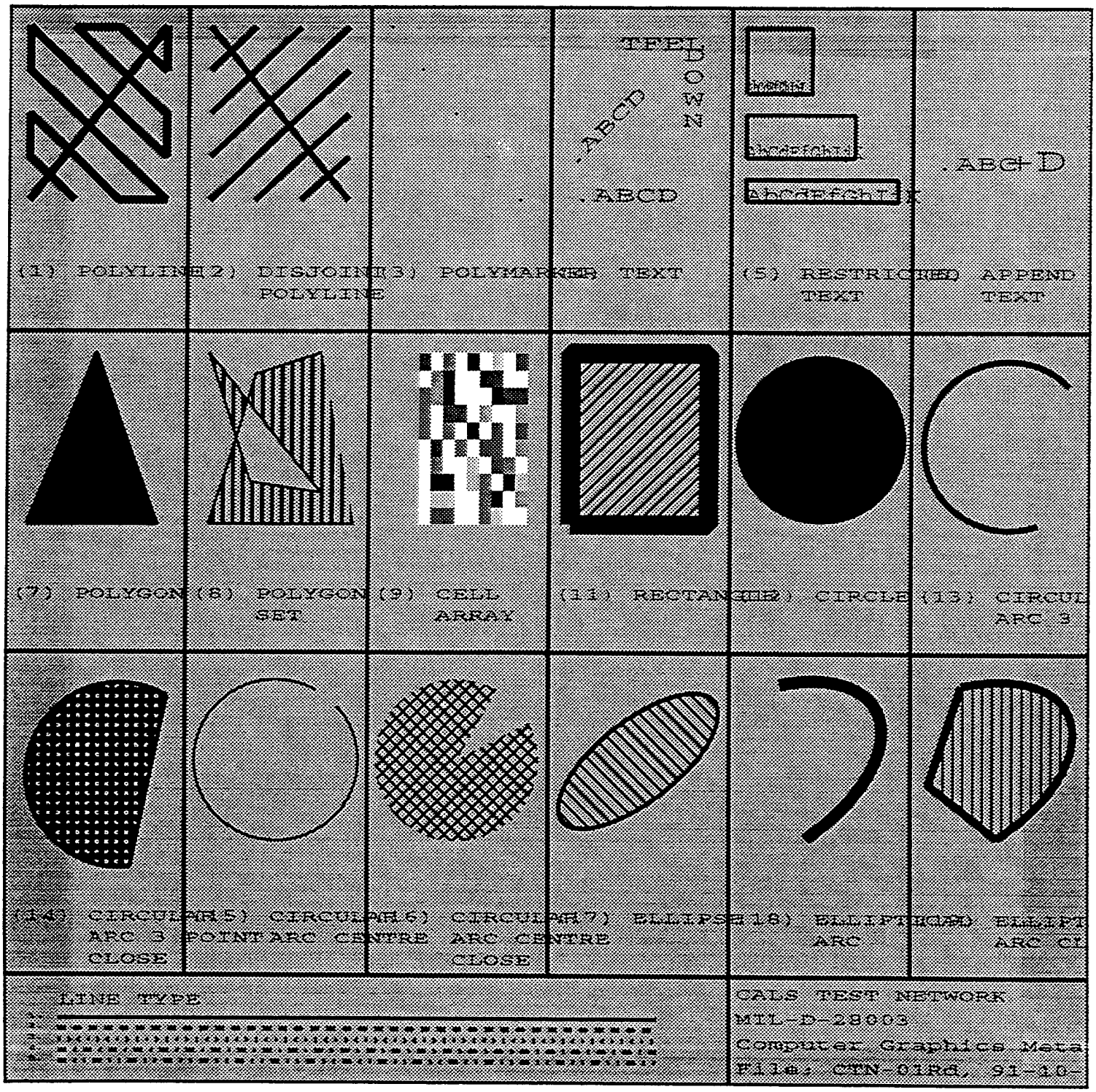
```
Picture 1 starts at octet offset 200: >Picture 1<

Conformance Summary  :  This file conforms to the CGM specification.
                        This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

          1 Pictures Tested
        272 Elements Tested
       3978 Octets Tested

              ================================
              |    No Errors Were Detected    |
              ================================

================ End of Conformance Report ==================
```

13.1.2 validcgm Log

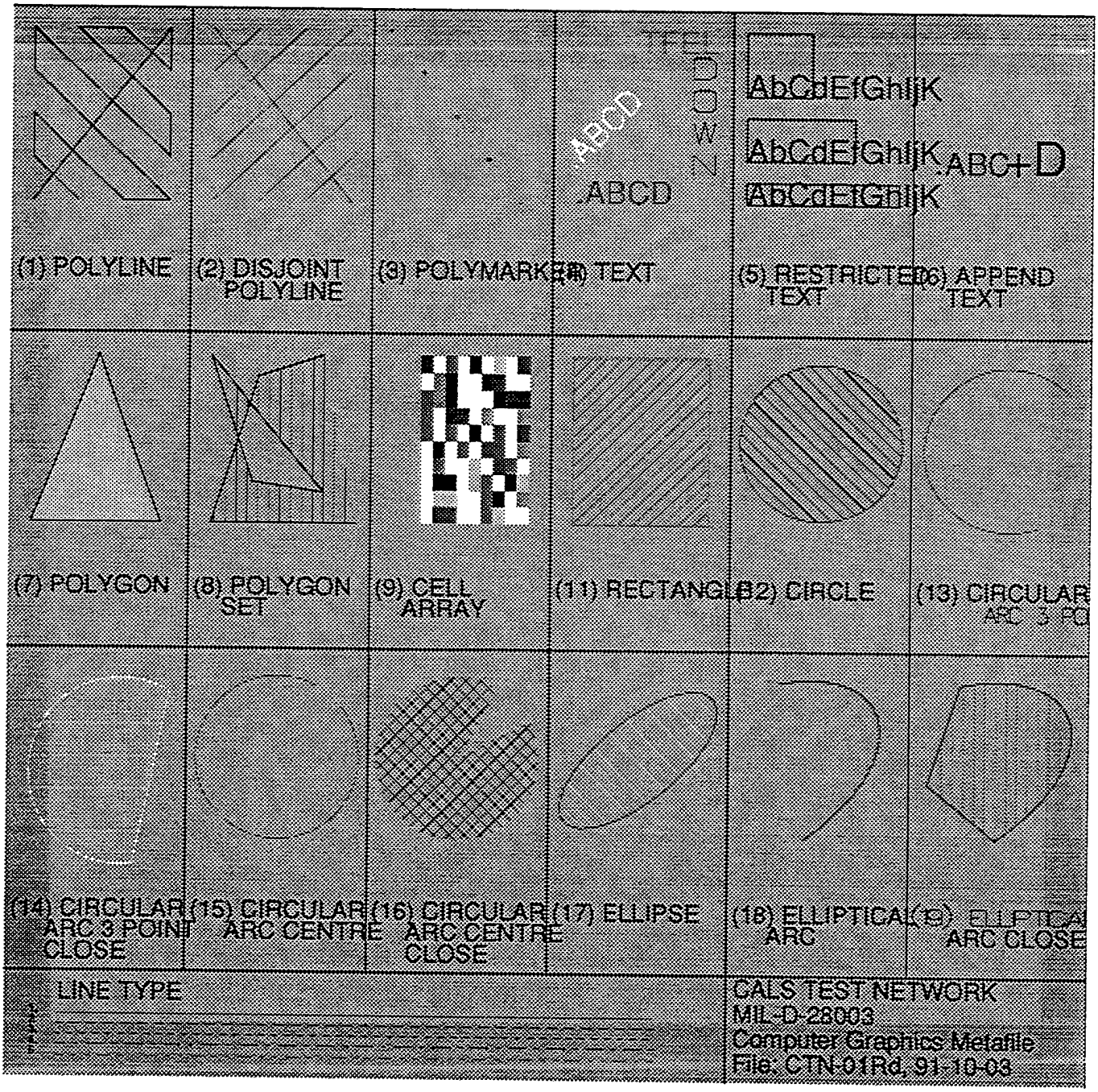
```
Analysis for file c002.cgm using table table
ERROR: illegal in this state (2), std B
ERROR: required precursor (0, 4) not yet seen
(14.1, 0)        (3, 6, 2)      Clip Indicator OFF
MILSPEC 28003 error: illegal hatch index
(173, 2352)      (5, 24, 2)     Hatch Index 6
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(1, 12) occurred 1 time
(1, 13) occurred 1 time
(2, 2) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
```

(3, 2) occurred 1 time
(3, 6) occurred 1 time
(3, 6) occurred illegally 1 time
(4, 1) occurred 32 times
(4, 3) occurred 5 times
(4, 4) occurred 50 times
(4, 7) occurred 3 times
(4, 9) occurred 1 time
(4, 12) occurred 2 times
(4, 15) occurred 3 times
(4, 16) occurred 2 times
(4, 17) occurred 2 times
(4, 18) occurred 2 times
(4, 19) occurred 1 time
(5, 2) occurred 17 times
(5, 3) occurred 17 times
(5, 4) occurred 17 times
(5, 6) occurred 5 times
(5, 7) occurred 5 times
(5, 8) occurred 5 times
(5, 10) occurred 3 times
(5, 12) occurred 5 times
(5, 13) occurred 1 time
(5, 14) occurred 7 times
(5, 15) occurred 5 times
(5, 16) occurred 7 times
(5, 17) occurred 4 times
(5, 18) occurred 1 time
(5, 22) occurred 10 times
(5, 23) occurred 8 times
(5, 24) occurred 7 times
(5, 27) occurred 2 times
(5, 28) occurred 2 times
(5, 29) occurred 2 times
(5, 30) occurred 10 times
(5, 31) occurred 7 times
(5, 34) occurred 1 time

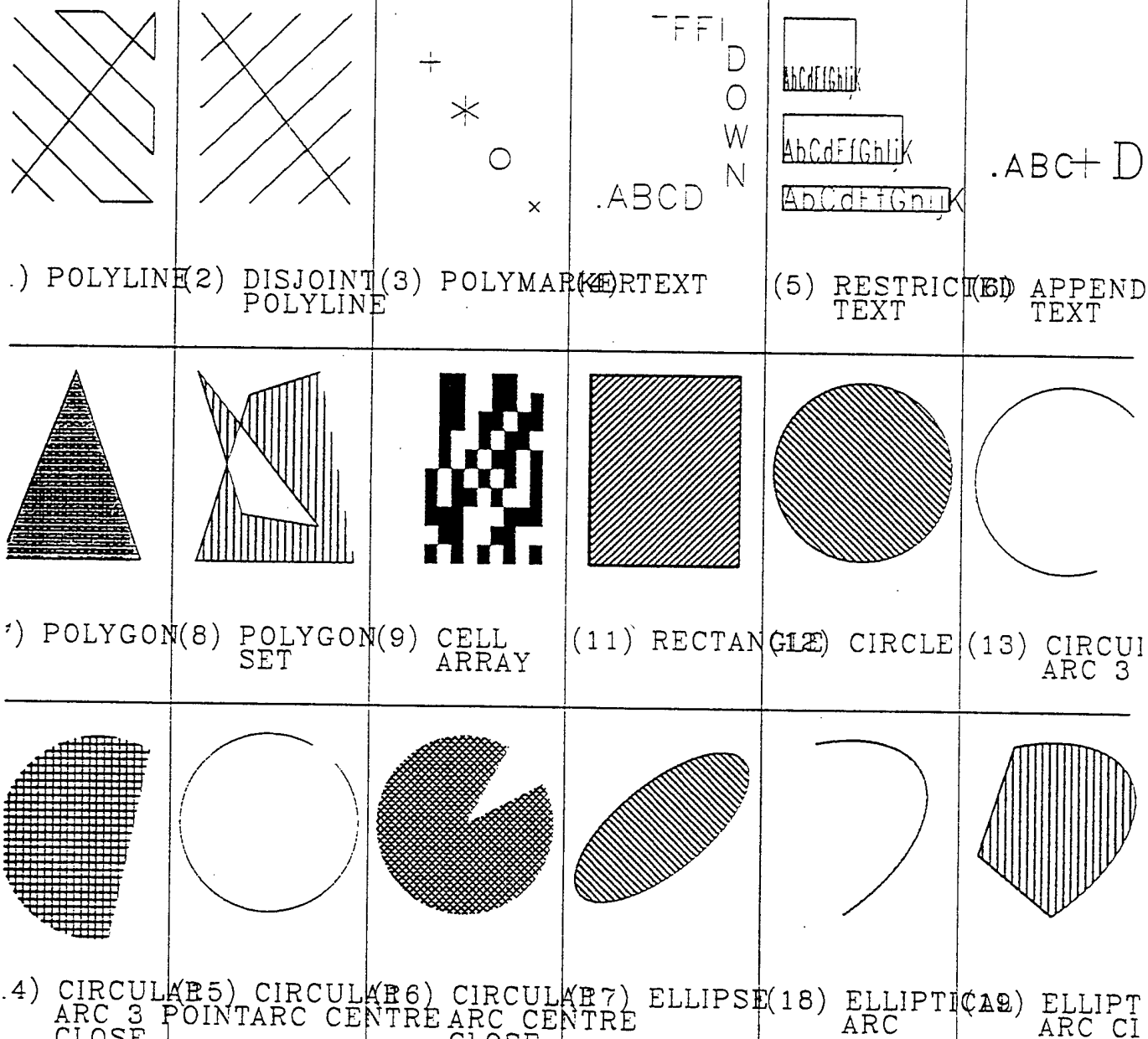
13.1.3 Output CADLeaf



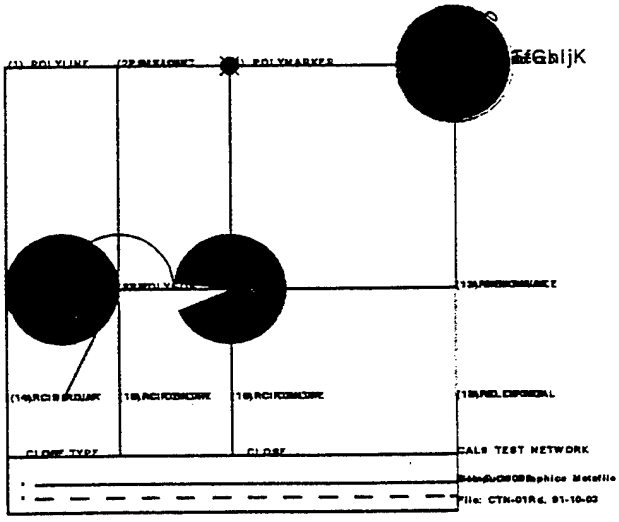
13.1.4 Output CALSView



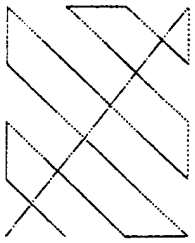
13.1.5 Output IslandDraw



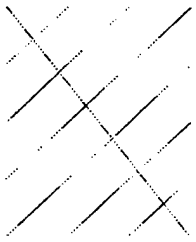
13.1.6 Output Harvard Graphics



13.1.7 Output IslandDraw v4.0



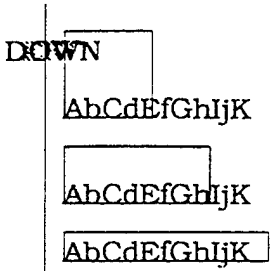
(1) POLYLINE



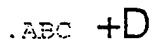
(2) DISJOINT POLYLINE

(3) POLYMARKER

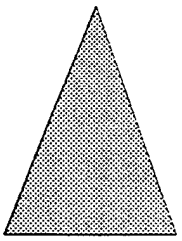
(4) TEXT



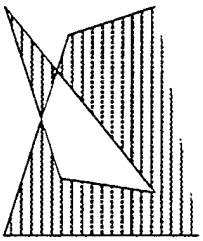
(5) RESTRICTED TEXT



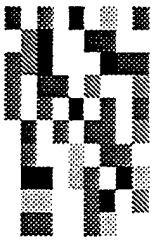
(6) APPEND TEXT



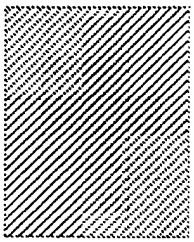
(7) POLYGON



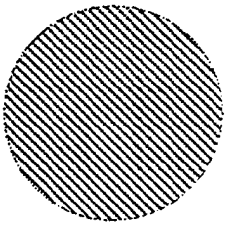
(8) POLYGON SET



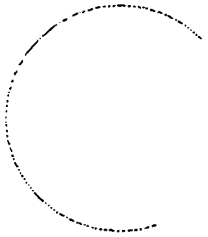
(9) CELL ARRAY



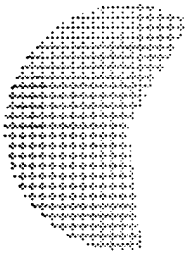
(11) RECTANGLE



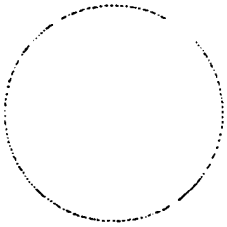
(12) CIRCLE



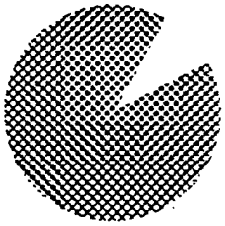
(13) CIRCULAR ARC 3 POINT



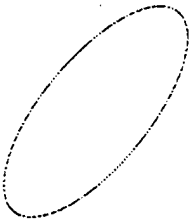
(14) CIRCULAR ARC 3 POINT CLOSE



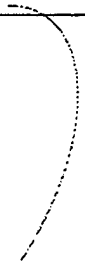
(15) CIRCULAR ARC CENTRE



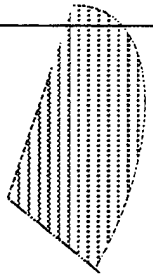
(16) CIRCULAR ARC CENTRE CLOSE



(17) ELLIPSE



(18) ELLIPTICAL ARC



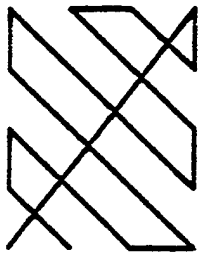
(19) ELLIPTICAL ARC CLOSE

LINE TYPE

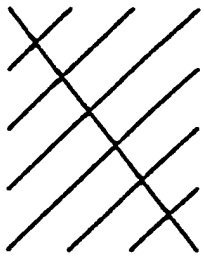
1.
2.
3.
4.
5.

CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03

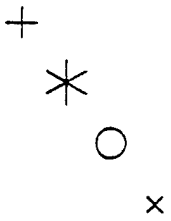
13.1.8 Output X-Change



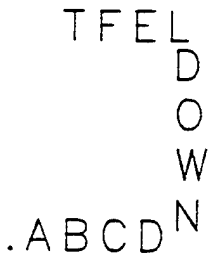
(1) POLYLINE



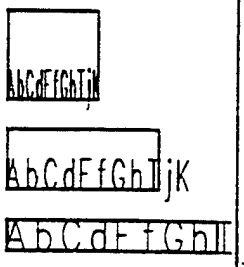
(2) DISJOINT POLYLINE



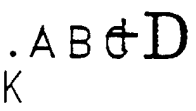
(3) POLYMARKER



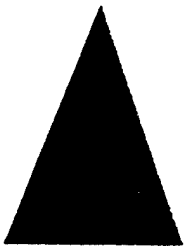
(4) TEXT



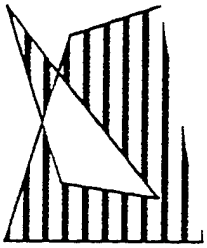
(5) RESTRICTED TEXT



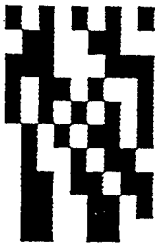
(6) APPEND TEXT



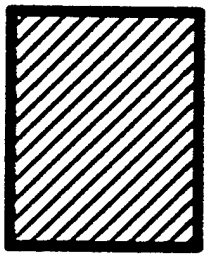
(7) POLYGON



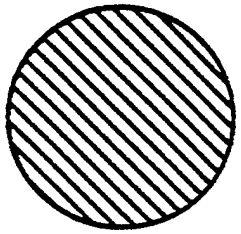
(8) POLYGON SET



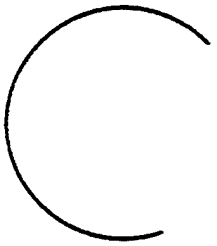
(9) CELL ARRAY



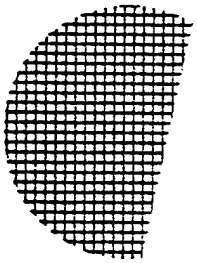
(11) RECTANGLE



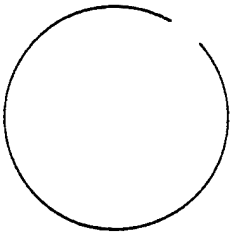
(12) CIRCLE



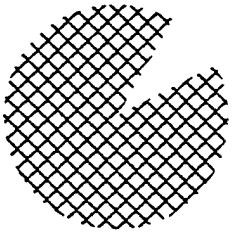
(13) CIRCULAR ARC 3 POIN



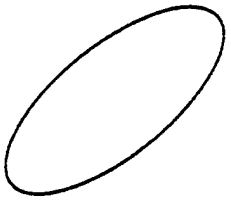
(14) CIRCULAR ARC 3 POINT CLOSE



(15) CIRCULAR ARC CENTRE

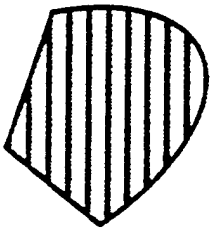


(16) CIRCULAR ARC CENTRE CLOSE



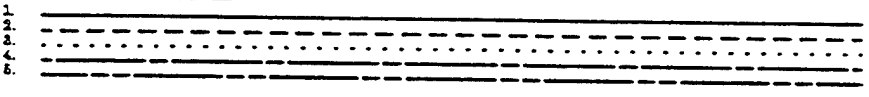
(17) ELLIPSE

(18) ELLIPTICA ARC



(19) ELLIPTICA ARC CLOSE

LINE TYPE



CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03